Supplemental Document

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Fluorescent bacterial biosensor *E. coli*/pTdcR-TurboYFP sensitive to terahertz radiation: supplement

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Table S1. General parameters of THz radiation generated by "the first stage" of NovoFEL

Parameter	Value
Frequency, THz / wavelength, µm	1.25–3.75 / 240–80
Pulse repetition rate, MHz	5.6–22.4
Pulse duration, ps	40–100
Average power, W	up to 500
Peak power, MW	up to 0.8
Minimum linewidth, %	0.2

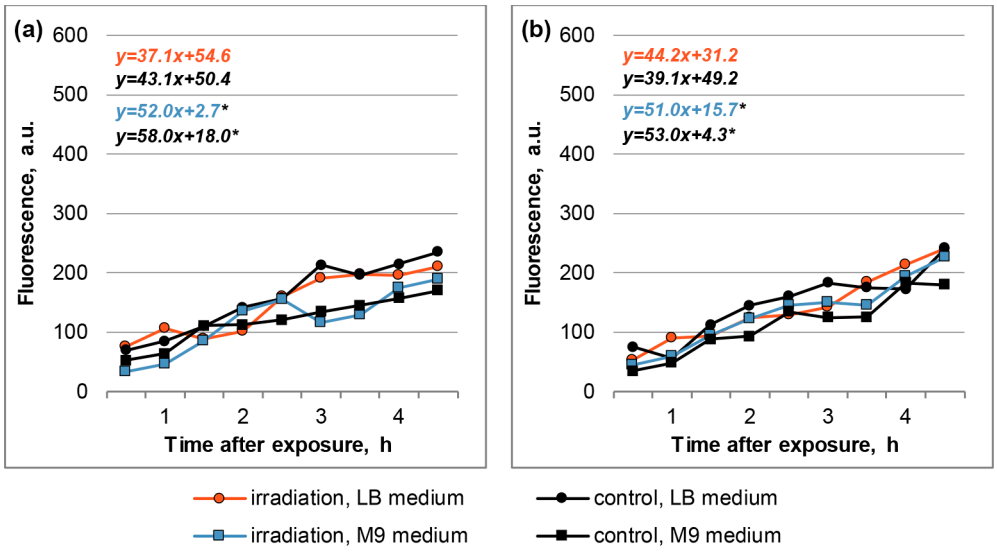

Fig. S1. Typical fluorescence dynamics of *E. coli* cells harboring basic vector pTurboYFP-B, in response to 30 min (as an example) THz irradiation by NovoFEL source in the two nutrient media (LB or M9) in comparison with a control (bulk heating): in the microplate (a) or in the cuvette (b). Results of one independent replicate are presented — fluorescence curves and the respective linear regression equations. *Equations correspond to M9 medium and a period up to a 1.5 h time point only.

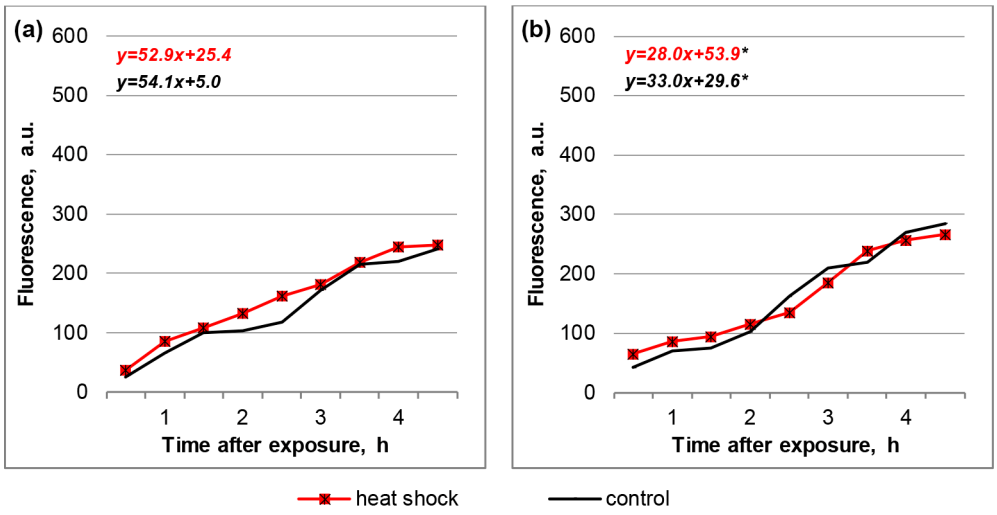

Fig. S2. Typical dynamics of the biosensor cells' fluorescence in response to heat shock (bulk heating at 42 °C for 30 min in the microplate) in comparison with a control (bulk heating at 37 °C for 30 min in the microplate): in the LB (a) or M9 (b) medium. Results of one independent replicate are presented — fluorescence curves and the respective linear regression equations. *Equations correspond to a period up to a 1.5 h time point only.

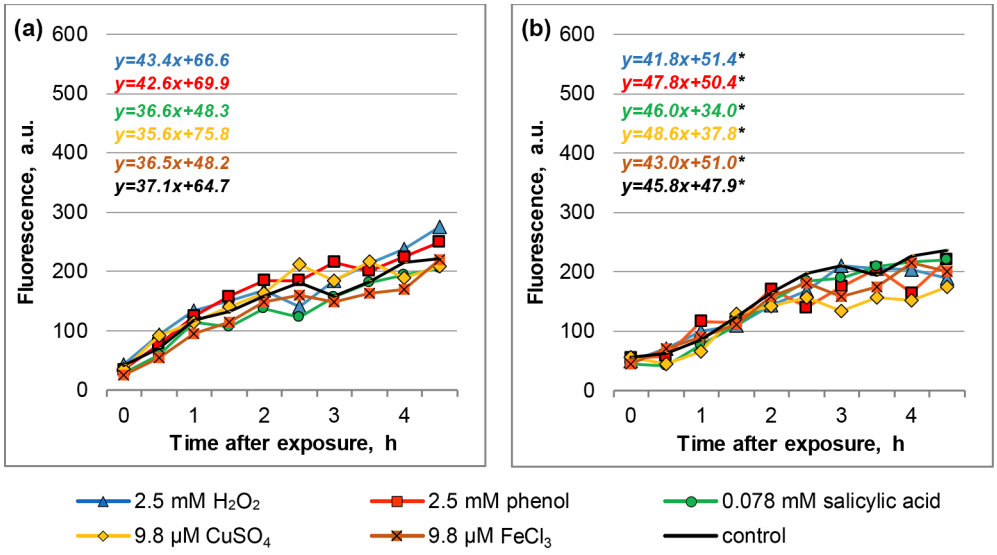

Fig. S3. Typical fluorescence dynamics of biosensor cells in the LB (a) or M9 (b) medium in response a chemical stressor: 2.5 mM hydrogen peroxide (H_2O_2), 2.5 mM phenol, 0.078 mM salicylic acid, 9.8 µM Cu(II) sulfate ($CuSO_4$), or 9.8 µM Fe(III) chloride ($FeCl_3$). Results of one independent replicate are presented — fluorescence curves and the respective linear regression equations. *Equations correspond to a period up to a 1.5 h time point only. At the other tested concentrations of the stressors, the results were comparable.